

ORNITHOLOGICAL LITERATURE

BIRDS OF PINE-OAK WOODLAND IN SOUTHERN ARIZONA AND ADJACENT MEXICO. By Joe T. Marshall, Jr. Cooper Ornithological Society, Berkeley, California; Pacific Coast Avifauna Number 32, 1957: 7 × 10½ in., 125 pp., frontispiece, 26 figs., 1 color plate. Illustrated by Don R. Eckelberry. Price: \$4.00 (paper covers), \$5.00 (bound with buckram).

It is gratifying to note, among the increasing deluge of published material on the Mexican avifauna, some recent progress beyond the faunal list and geographical distribution stage of investigation. Marshall's study is an interpretation of the abundance and ecological distribution of the breeding birds of the pine-oak woodland of southeastern Arizona and the neighboring Mexican states of Sonora and Chihuahua. The report is based on censuses and observations of behavior made during the summers of 1951, 1952, and 1953. It may rightfully serve as a model for similar analytical work on other equally interesting biotic communities of Mexico.

Approximately one-quarter of the book is devoted to the floristic composition and general vegetational features of the study area, including descriptions of the various camps and dates of visitation. Another quarter deals with census methods and general aspects of the avifauna, among which are habitat selection, competition, history, and factors limiting distribution. The remaining half of the book consists of accounts of 170 species, 93 of which are considered to nest regularly and/or feed in pine-oak woods. These accounts consist largely of observations of local behavior, habitat preferences, and interspecific relationships. Binomials are used throughout, since the distinction of subspecies is not an expressed purpose of the study. There is a four page bibliography but no index.

Seventeen photographs help the reader to envisage the physiognomy of this ecotone community. There are nine tables and six maps. A pair of Spotted Screech Owls painted by Don Eckelberry makes an appropriate and attractive frontispiece. Black and white drawings by Eckelberry depict three more pine-oak species: Olivaceous Flycatcher, Bush-tit, and Hutton Vireo. The single color plate of a pair of Olive Warblers, also by Eckelberry's talented hand, will be familiar to readers of the *Condor* (vol. 58, no. 2). Its inclusion in the present Cooper Society publication presumably was regarded as a financial *coup de maitre*, but unfortunately may give the erroneous impression that this is another indicator species of pine-oak woods.

Pine-oak woodland was apparently selected not as an entity but rather as a convenient division of an over-all continuum of vegetation that might be used to study the ecological needs of birds and their consequent abundance and distribution. This is a healthy and refreshing attitude in view of the tendency of some contemporary workers to emphasize the discreteness of natural communities. "Species and their populations are the realities to be seen; their sortings and mixtures can be classified less objectively . . . Only after we realize these facts can we permit ourselves the luxury of speaking of vegetation types, associations, or communities as may be necessary for discussing the distribution of birds" (p. 39).

Marshall's style of writing is anecdotal, descriptive, and chatty. Those who prefer their scientific reading concise and telegraphic will regard many of the author's comments as trivial and inconsequential. Such is the plight of most writers who abhor the thought of omitting any detail on the grounds that it may be useful or significant to someone, sometime.

In general, care has been exercised by both author and printer for there appear to be

few errors or omissions. Exceptions are apparently inevitable, as evidenced by the misspelling of "Olivaceous" on figure 24 and the incomplete labeling of figure 3 (*Pinus durangensis*) and of figure 21 (Rusty Sparrow). The author had some difficulty with his herpetological material: *ochrorhyncha* (misspelled on p. 76) has been replaced generally by *torquata*; *Coleonyx* is misspelled on page 76.

One might question the efficacy or even purpose of certain tables and figures in this work. The complexity and variability of bird behavior make its presentation in tabular form difficult and too frequently misleading. Feeding behavior, for example, may be presented in a far too typological vein (table 5). Data on the geographical limits of pine-oak birds do not merit repetition in three forms of editorial expression: map (fig. 21), table (table 9), and text (pp. 45 and 67). The use of scientific names in table 2 and common names in table 3 presumably enables the reader to interpret the former, if necessary; but table 3 contains more species, hence the entries are not comparable.

The author demonstrates a good grasp of the vegetation of the study area, which could only have been developed by carefully observing and collecting over a period of years. This knowledge has been used to best advantage in interpreting the ecological needs of the birds in his study area. His analysis of a number of prominent biological topics is critical and erudite. The views on "ecologic" races and competition (pp. 53-60), for example, will be of interest to many readers.

Anyone who has had field experience within Marshall's study area will be appreciative of the obstacles that he must have overcome in compiling the amount of data presented in this publication. The inaccessibility of most of the isolated mountain ranges, coupled with the limited time available to university faculty for field work have unquestionably discouraged many less determined workers. We can only hope that Marshall will give us a repeat performance with other segments of the Mexican avifauna.—WESLEY E. LANYON, *American Museum of Natural History, New York 24, New York.*

Ornithologists are indebted once more to Col. W. P. C. Tenison for his compilation of the Aves section of the *Zoological Record*, listing and indexing the world literature of ornithology for 1956. This volume may be purchased from the Zoological Society of London for 10 shillings.